

## EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	1	"54016497"	JPO	OR	OFF	2008/01/10 10:44
S1	2279	514/249.ccls.	US-PGPUB; USPAT	OR	OFF	2008/01/10 10:39
S2	18	514/249.ccls. and 514/252.12.ccls.	US-PGPUB; USPAT	OR	OFF	2008/01/10 10:39
S3	0	514/249.ccls. and 514/252.12.ccls. and 544/236.ccls.	US-PGPUB; USPAT	OR	OFF	2008/01/10 10:39
S4	0	514/249.ccls. and 514/252.12.ccls. and 544/236.ccls. and 544/336.ccls.	US-PGPUB; USPAT	OR	OFF	2008/01/10 10:39
S5	5	544/236.ccls. and 544/336.ccls.	US-PGPUB; USPAT	OR	OFF	2008/01/10 10:39
S6	646	544/236.ccls.	US-PGPUB; USPAT	OR	OFF	2008/01/10 10:39
S7	159	544/236.ccls. and 514/249.ccls.	US-PGPUB; USPAT	OR	OFF	2008/01/10 10:40
S8	81	544/236.ccls. and 514/249.ccls. and cancer	US-PGPUB; USPAT	OR	OFF	2008/01/10 10:42
S9	7	544/236.ccls. and 514/249.ccls. and cancer and topoisomerase	US-PGPUB; USPAT	OR	OFF	2008/01/10 10:44

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PASSWORD:

TERMINAL (ENTER 1, 2, 3, OR ?):2

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NEWS	1		Web Page for STN Seminar Schedule - N. America
NEWS	2	AUG 06	CAS REGISTRY enhanced with new experimental property tags
NEWS	3	AUG 06	FSTA enhanced with new thesaurus edition
NEWS	4	AUG 13	CA/CAPLUS enhanced with additional kind codes for granted patents
NEWS	5	AUG 20	CA/CAPLUS enhanced with CAS indexing in pre-1907 records
NEWS	6	AUG 27	Full-text patent databases enhanced with predefined patent family display formats from INPADOCDB
NEWS	7	AUG 27	USPATOLD now available on STN
NEWS	8	AUG 28	CAS REGISTRY enhanced with additional experimental spectral property data
NEWS	9	SEP 07	STN AnaVist, Version 2.0, now available with Derwent World Patents Index
NEWS	10	SEP 13	FORIS renamed to SOFIS
NEWS	11	SEP 13	INPADOCDB enhanced with monthly SDI frequency
NEWS	12	SEP 17	CA/CAPLUS enhanced with printed CA page images from 1967-1998
NEWS	13	SEP 17	CAPLUS coverage extended to include traditional medicine patents
NEWS	14	SEP 24	EMBASE, EMBAL, and LEMBASE reloaded with enhancements
NEWS	15	OCT 02	CA/CAPLUS enhanced with pre-1907 records from Chemisches Zentralblatt
NEWS	16	OCT 19	BEILSTEIN updated with new compounds
NEWS	17	NOV 15	Derwent Indian patent publication number format enhanced
NEWS	18	NOV 19	WPIX enhanced with XML display format
NEWS	19	NOV 30	ICSD reloaded with enhancements
NEWS	20	DEC 04	LINPADOCDB now available on STN
NEWS	21	DEC 14	BEILSTEIN pricing structure to change
NEWS	22	DEC 17	USPATOLD added to additional database clusters
NEWS	23	DEC 17	IMSDRUGCONF removed from database clusters and STN
NEWS	24	DEC 17	DGENE now includes more than 10 million sequences
NEWS	25	DEC 17	TOXCENTER enhanced with 2008 MeSH vocabulary in MEDLINE segment
NEWS	26	DEC 17	MEDLINE and LMEMLINE updated with 2008 MeSH vocabulary
NEWS	27	DEC 17	CA/CAPLUS enhanced with new custom IPC display formats
NEWS	28	DEC 17	STN Viewer enhanced with full-text patent content from USPATOLD
NEWS	29	JAN 02	STN pricing information for 2008 now available
NEWS EXPRESS	19	SEPTEMBER 2007:	CURRENT WINDOWS VERSION IS V8.2, CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP), AND CURRENT DISCOVER FILE IS DATED 19 SEPTEMBER 2007.
NEWS HOURS			STN Operating Hours Plus Help Desk Availability
NEWS LOGIN			Welcome Banner and News Items
NEWS IPC8			For general information regarding STN implementation of IPC 8

Enter NEWS followed by the item number or name to see news on that

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\* \* \* \* \* STN Columbus \* \* \* \* \*

FILE 'HOME' ENTERED AT 09:36:51 ON 10 JAN 2008

=> fil reg

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

0.21

0.21

FILE 'REGISTRY' ENTERED AT 09:37:03 ON 10 JAN 2008

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STRUCTURE FILE UPDATES: 8 JAN 2008 HIGHEST RN 960198-43-0

DICTIONARY FILE UPDATES: 8 JAN 2008 HIGHEST RN 960198-43-0

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TSCA INFORMATION NOW CURRENT THROUGH June 29, 2007

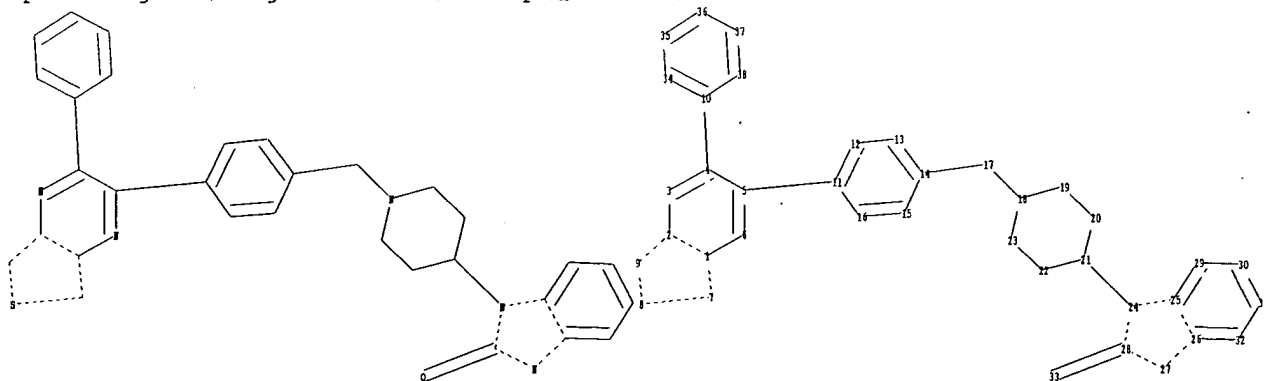
Please note that search-term pricing does apply when conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/support/stngen/stndoc/properties.html>

=>

Uploading C:\Program Files\Stnexp\Queries\10530252.str



chain nodes :

```

17 33
ring nodes :
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 18 19 20 21 22 23 24
25 26 27 28 29 30 31 32 34 35 36 37 38
chain bonds :
4-10 5-11 14-17 17-18 21-24 28-33
ring bonds :
1-2 1-6 1-7 2-3 2-9 3-4 4-5 5-6 7-8 8-9 10-34 10-38 11-12 11-16 12-13
13-14 14-15 15-16 18-19 18-23 19-20 20-21 21-22 22-23 24-25 24-28 25-26
25-29 26-27 26-32 27-28 29-30 30-31 31-32 34-35 35-36 36-37 37-38
exact/norm bonds :
1-2 1-6 1-7 2-3 2-9 3-4 4-5 5-6 7-8 8-9 17-18 18-19 18-23 19-20 20-21
21-22 21-24 22-23 24-25 24-28 25-26 26-27 27-28 28-33
exact bonds :
4-10 5-11 14-17
normalized bonds :
10-34 10-38 11-12 11-16 12-13 13-14 14-15 15-16 25-29 26-32 29-30 30-31
31-32 34-35 35-36 36-37 37-38

```

```

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom
11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:CLASS 18:Atom 19:Atom
20:Atom 21:Atom 22:Atom 23:Atom 24:Atom 25:Atom 26:Atom 27:Atom 28:Atom
29:Atom 30:Atom 31:Atom 32:Atom 33:CLASS 34:Atom 35:Atom 36:Atom 37:Atom
38:Atom

```

L1 STRUCTURE UPLOADED

=> d

L1 HAS NO ANSWERS

L1 STR

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

Structure attributes must be viewed using STN Express query preparation.

=> s l1

SAMPLE SEARCH INITIATED 09:37:26 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 21 TO ITERATE

100.0% PROCESSED 21 ITERATIONS

0 ANSWERS

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE \*\*COMPLETE\*\*

BATCH \*\*COMPLETE\*\*

PROJECTED ITERATIONS: 146 TO 694

PROJECTED ANSWERS: 0 TO 0

L2 0 SEA SSS SAM L1

=> s l1 full

FULL SEARCH INITIATED 09:37:29 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 482 TO ITERATE

100.0% PROCESSED 482 ITERATIONS

2 ANSWERS

SEARCH TIME: 00.00.01

L3 2 SEA SSS FUL L1

=> fil caplus  
COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION
178.36	178.57

FULL ESTIMATED COST

FILE 'CAPLUS' ENTERED AT 09:37:31 ON 10 JAN 2008  
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FILE COVERS 1907 - 10 Jan 2008 VOL 148 ISS 2  
FILE LAST UPDATED: 8 Jan 2008 (20080108/ED)

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=> s l3  
L4 1 L3

=> d ibib abs hitstr tot

L4 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2008 ACS on STM (Continued)

ACCESSION NUMBER: 2004:414709 CAPLUS

DOCUMENT NUMBER: 141:7136

TITLE:

INVENTOR(S): A preparation of thieno[3,4-b]pyrazine derivatives

PATENT ASSIGNEE(S): useful as inhibitors of Akt activity

SOURCE: Duggan, Mark E.; Lindsley, Craig W.; Zhao, Zhijian

Merck & Co., Inc., USA

PCT Int. Appl., 81 pp.

CODEN: PIXX02

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004041162	A2	20040521	WO 2003-US34007	20031024
WO 2004041162	A3	20040729		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LA, LS, LT, LU, LV, MA, MD, ME, MG, MH, MW, MX, MY, NZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2501365	A1	20040521	CA 2003-2501365	20031024
AU 2003284981	A1	20040607	AU 2003-284981	20031024
EP 1559506	A2	20050803	EP 2003-779301	20031024
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
JP 2006507299	T	20060302	JP 2004-550130	20031024
US 2005288294	A1	20051229	US 2005-530252	20050405
PRIORITY APPLN. INFO.:			US 2002-422307P	P 20021030
			WO 2003-US34007	W 20031024

OTHER SOURCE(S): MARPAT 141:7136

GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB The invention relates to thieno[3,4-b]pyrazine derivs. of formula I [wherein: X, Y, and Z are independently selected from C, N, S, or O provided that at least one of X, Y, or Z is N, S, or O; B is a heterocycle, optionally substituted with 1 to 3 substituents; R1 and R2 are independently selected from C(O)-O-(alkyl/aryl/heterocyclyl), alk(en)ynyl, or CO2H, etc.], useful as inhibitors of activity of one or more of the isoform of the serine/threonine protein kinase, Akt (also known as PKB). The invention is further directed to chemotherapeutic compns. containing the compds. of this invention and methods for treating cancer comprising administration of the compds. of the invention. The invented compds. were screened in Akt kinases assays, PKA and PKC assays, in cell based assays to determine inhibition of Akt/PKB, and for inhibition of tumor growth (specific compds. were tested and were found to have IC50 < 20 µM against one or more of Akt1, Akt2, and Akt3). For instance, thienopyrazine derivs. II was prepared via heterocyclization of the obtained

L4 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2008 ACS on STM (Continued)

diketone deriv. III with 3,4-diaminothiophene (no yield data).

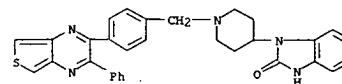
IT 690661-94-OP 690662-05-6P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of thienopyrazine derivs. useful as inhibitors of Akt activity)

RN 690661-94-0 CAPLUS

CN 2H-Benzimidazol-2-one, 1,3-dihydro-1-[[4-((3-phenylthieno[3,4-b]pyrazin-2-yl)phenyl)methyl]-4-piperidinyl]- (CA INDEX NAME)



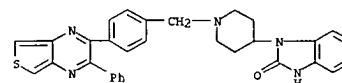
RN 690662-05-6 CAPLUS

CN 2H-Benzimidazol-2-one, 1,3-dihydro-1-[[4-((3-phenylthieno[3,4-b]pyrazin-2-yl)phenyl)methyl]-4-piperidinyl]-, mono(trifluoroacetate) (9CI) (CA INDEX NAME)

CM 1

CRN 690661-94-0

CMF C31 H27 N5 O S



CM 2

CRN 76-05-1

CMF C2 H F3 O2



=> fil reg

FULL ESTIMATED COST

SINCE FILE

## ENTRY

5.93

TOTAL

SESSION

184.50

CA SUBSCRIBER PRICE

SINCE FILE

## ENTRY

-0.80

TOTAL

SESSION

-0.80

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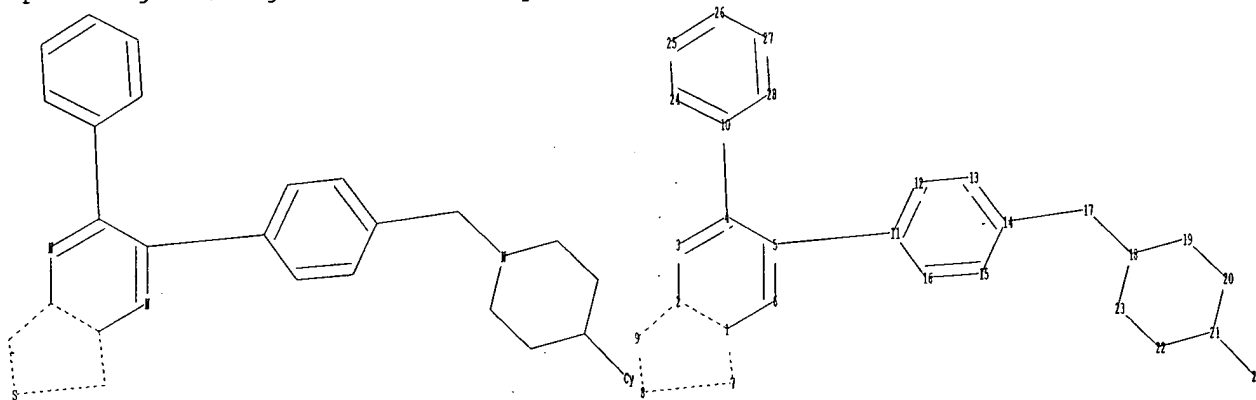
experimental property data in the original document. For information

on property searching in REGISTRY, refer to:

<http://www.cas.org/support/stngen/stndoc/properties.html>

 $\Rightarrow$ 

Uploading C:\Program Files\Stnexp\Queries\10530252b.str



```
chain nodes :
```

17 29

ring nodes :

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 18 19 20 21 22 23 24

25      26      27      28

chain bonds :

4-10 5-11 14-17 17-18 21-29

ring bonds :

1-2 1-6 1-7 2-3 2-9 3-4 4-5 5-6 7-8 8-9 10-24 10-28 11-12 11-16 12-13  
13-14 14-15 15-16 18-19 18-23 19-20 20-21 21-22 22-23 24-25 25-26 26-27  
27-28

exact/norm bonds :

1-2 1-6 1-7 2-3 2-9 3-4 4-5 5-6 7-8 8-9 17-18 18-19 18-23 19-20 20-21  
21-22 21-29 22-23

exact bonds :

4-10 5-11 14-17

normalized bonds :

10-24 10-28 11-12 11-16 12-13 13-14 14-15 15-16 24-25 25-26 26-27 27-28

Match level :

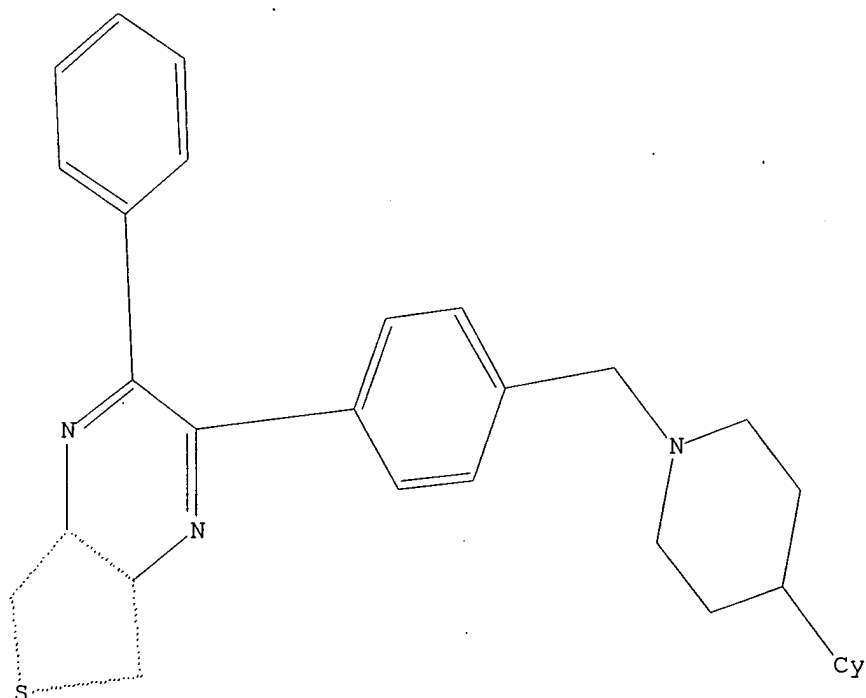
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom  
11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:CLASS 18:Atom 19:Atom  
20:Atom 21:Atom 22:Atom 23:Atom 24:Atom 25:Atom 26:Atom 27:Atom 28:Atom  
29:Atom

L5 STRUCTURE UPLOADED

=> d

L5 HAS NO ANSWERS

L5 STR



Structure attributes must be viewed using STN Express query preparation.



=> s 15

SAMPLE SEARCH INITIATED 09:40:11 FILE 'REGISTRY'  
SAMPLE SCREEN SEARCH COMPLETED - 15 TO ITERATE

100.0% PROCESSED 15 ITERATIONS 1 ANSWERS  
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE \*\*COMPLETE\*\*  
BATCH \*\*COMPLETE\*\*  
PROJECTED ITERATIONS: 68 TO 532  
PROJECTED ANSWERS: 1 TO 80

L6 1 SEA SSS SAM L5

=> s 15 full

FULL SEARCH INITIATED 09:40:15 FILE 'REGISTRY'  
FULL SCREEN SEARCH COMPLETED - 274 TO ITERATE

100.0% PROCESSED 274 ITERATIONS 8 ANSWERS  
SEARCH TIME: 00.00.01

L7 8 SEA SSS FUL L5

=> fil caplus

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	179.74	364.24
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	0.00	-0.80

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FILE LAST UPDATED: 8 Jan 2008 (20080108/ED)

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=> s 17

L8 1 L7

=> fil reg

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

0.48

364.72

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE

TOTAL

ENTRY

SESSION

CA SUBSCRIBER PRICE

0.00

-0.80

FILE 'REGISTRY' ENTERED AT 09:40:22 ON 10 JAN 2008

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DICTIONARY FILE UPDATES: 8 JAN 2008 HIGHEST RN 960198-43-0

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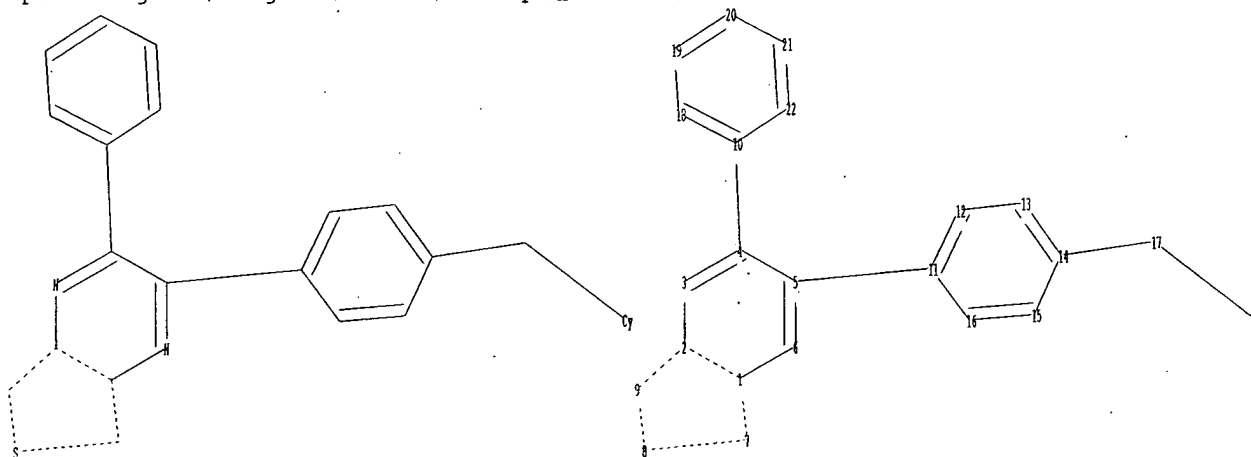
Please note that search-term pricing does apply when  
conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and  
predicted properties as well as tags indicating availability of  
experimental property data in the original document. For information  
on property searching in REGISTRY, refer to:

<http://www.cas.org/support/stngen/stndoc/properties.html>

=>

Uploading C:\Program Files\Stnexp\Queries\10530252c.str



chain nodes :

17 23

ring nodes :

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 18 19 20 21 22  
 chain bonds :  
 4-10 5-11 14-17 17-23  
 ring bonds :  
 1-2 1-6 1-7 2-3 2-9 3-4 4-5 5-6 7-8 8-9 10-18 10-22 11-12 11-16 12-13  
 13-14 14-15 15-16 18-19 19-20 20-21 21-22  
 exact/norm bonds :  
 1-2 1-6 1-7 2-3 2-9 3-4 4-5 5-6 7-8 8-9 17-23  
 exact bonds :  
 4-10 5-11 14-17  
 normalized bonds :  
 10-18 10-22 11-12 11-16 12-13 13-14 14-15 15-16 18-19 19-20 20-21 21-22

Match level :

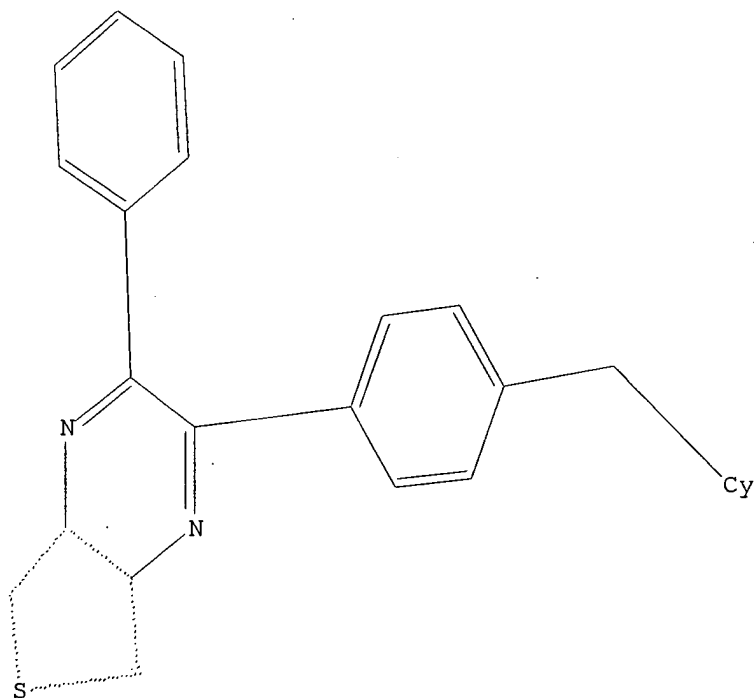
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom  
 11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:CLASS 18:Atom 19:Atom  
 20:Atom 21:Atom 22:Atom 23:Atom

L9 STRUCTURE UPLOADED

=> d

L9 HAS NO ANSWERS

L9 STR



Structure attributes must be viewed using STN Express query preparation.

=> s 19

SAMPLE SEARCH INITIATED 09:41:10 FILE 'REGISTRY'  
SAMPLE SCREEN SEARCH COMPLETED - 5 TO ITERATE

100.0% PROCESSED 5 ITERATIONS 1 ANSWERS  
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE \*\*COMPLETE\*\*  
BATCH \*\*COMPLETE\*\*  
PROJECTED ITERATIONS: 5 TO 234  
PROJECTED ANSWERS: 1 TO 80

L10 1 SEA SSS SAM L9

=> s 19 full  
FULL SEARCH INITIATED 09:41:13 FILE 'REGISTRY'  
FULL SCREEN SEARCH COMPLETED - 134 TO ITERATE

100.0% PROCESSED 134 ITERATIONS 18 ANSWERS  
SEARCH TIME: 00.00.01

L11 18 SEA SSS FUL L9

=> fil caplus		
COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	178.36	543.08
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
	ENTRY	SESSION
CA SUBSCRIBER PRICE	0.00	-0.80

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=> s 111  
L12 1 L11

=> fil reg

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PASSWORD:

TERMINAL (ENTER 1, 2, 3, OR ?):2

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NEWS 2 AUG 06 CAS REGISTRY enhanced with new experimental property tags  
NEWS 3 AUG 06 FSTA enhanced with new thesaurus edition  
NEWS 4 AUG 13 CA/Caplus enhanced with additional kind codes for granted patents  
NEWS 5 AUG 20 CA/Caplus enhanced with CAS indexing in pre-1907 records  
NEWS 6 AUG 27 Full-text patent databases enhanced with predefined patent family display formats from INPADOCDB  
NEWS 7 AUG 27 USPATOLD now available on STN  
NEWS 8 AUG 28 CAS REGISTRY enhanced with additional experimental spectral property data  
NEWS 9 SEP 07 STN AnaVist, Version 2.0, now available with Derwent World Patents Index  
NEWS 10 SEP 13 FORIS renamed to SOFIS  
NEWS 11 SEP 13 INPADOCDB enhanced with monthly SDI frequency  
NEWS 12 SEP 17 CA/Caplus enhanced with printed CA page images from 1967-1998  
NEWS 13 SEP 17 Caplus coverage extended to include traditional medicine patents  
NEWS 14 SEP 24 EMBASE, EMBAL, and LEMBASE reloaded with enhancements  
NEWS 15 OCT 02 CA/Caplus enhanced with pre-1907 records from Chemisches Zentralblatt  
NEWS 16 OCT 19 BEILSTEIN updated with new compounds  
NEWS 17 NOV 15 Derwent Indian patent publication number format enhanced  
NEWS 18 NOV 19 WPIX enhanced with XML display format  
NEWS 19 NOV 30 ICSD reloaded with enhancements  
NEWS 20 DEC 04 LINPADOCDB now available on STN  
NEWS 21 DEC 14 BEILSTEIN pricing structure to change  
NEWS 22 DEC 17 USPATOLD added to additional database clusters  
NEWS 23 DEC 17 IMSDRUGCONF removed from database clusters and STN  
NEWS 24 DEC 17 DGENE now includes more than 10 million sequences  
NEWS 25 DEC 17 TOXCENTER enhanced with 2008 MeSH vocabulary in MEDLINE segment  
NEWS 26 DEC 17 MEDLINE and LMEDLINE updated with 2008 MeSH vocabulary  
NEWS 27 DEC 17 CA/Caplus enhanced with new custom IPC display formats  
NEWS 28 DEC 17 STN Viewer enhanced with full-text patent content from USPATOLD  
NEWS 29 JAN 02 STN pricing information for 2008 now available  
  
NEWS EXPRESS 19 SEPTEMBER 2007: CURRENT WINDOWS VERSION IS V8.2, CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP), AND CURRENT DISCOVER FILE IS DATED 19 SEPTEMBER 2007.  
  
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NEWS LOGIN Welcome Banner and News Items  
NEWS IPC8 For general information regarding STN implementation of IPC 8

Enter NEWS followed by the item number or name to see news on that

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\* \* \* \* \* STN Columbus \* \* \* \* \*

FILE 'HOME' ENTERED AT 09:54:13 ON 10 JAN 2008

=> fil reg

COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION
0.21	0.21

FULL ESTIMATED COST

FILE 'REGISTRY' ENTERED AT 09:54:20 ON 10 JAN 2008

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STRUCTURE FILE UPDATES: 8 JAN 2008 HIGHEST RN 960198-43-0

DICTIONARY FILE UPDATES: 8 JAN 2008 HIGHEST RN 960198-43-0

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH June 29, 2007

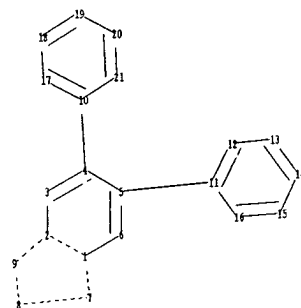
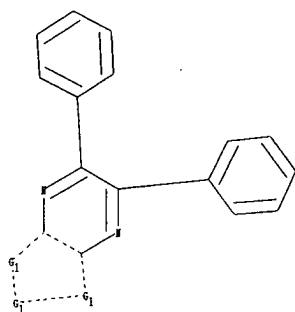
Please note that search-term pricing does apply when conducting SmartSELECT searches.

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<http://www.cas.org/support/stngen/stndoc/properties.html>

=>

Uploading C:\Program Files\Stnexp\Queries\10530252g.str



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ring nodes :
1  2  3  4  5  6  7  8  9  10  11  12  13  14  15  16  17  18  19  20  21
chain bonds :
4-10  5-11
ring bonds :
1-2  1-6  1-7  2-3  2-9  3-4  4-5  5-6  7-8  8-9  10-17  10-21  11-12  11-16  12-13
13-14  14-15  15-16  17-18  18-19  19-20  20-21
exact/norm bonds :
1-2  1-6  1-7  2-3  2-9  3-4  4-5  4-10  5-6  5-11  7-8  8-9
normalized bonds :
10-17  10-21  11-12  11-16  12-13  13-14  14-15  15-16  17-18  18-19  19-20  20-21

```

G1:O,S,N,C

Match level :

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1:Atom  2:Atom  3:Atom  4:Atom  5:Atom  6:Atom  7:Atom  8:Atom  9:Atom  10:Atom
11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom 18:Atom 19:Atom
20:Atom 21:Atom

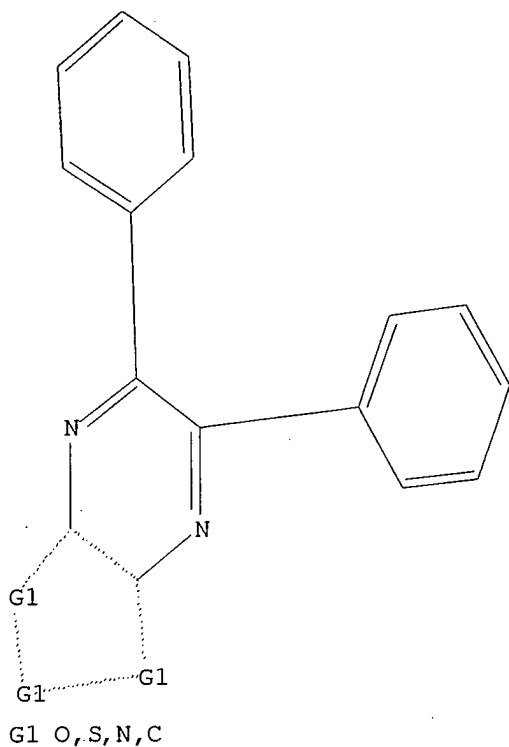
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L1 STRUCTURE UPLOADED

=> d

L1 HAS NO ANSWERS

L1 STR



Structure attributes must be viewed using STN Express query preparation.

=> s l1

SAMPLE SEARCH INITIATED 09:54:37 FILE 'REGISTRY'  
 SAMPLE SCREEN SEARCH COMPLETED - 864 TO ITERATE

100.0% PROCESSED 864 ITERATIONS 27 ANSWERS  
 SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE \*\*COMPLETE\*\*  
 BATCH \*\*COMPLETE\*\*  
 PROJECTED ITERATIONS: 15517 TO 19043  
 PROJECTED ANSWERS: 229 TO 851

L2 27 SEA SSS SAM L1

=> s l1 full

FULL SEARCH INITIATED 09:54:39 FILE 'REGISTRY'  
 FULL SCREEN SEARCH COMPLETED - 17225 TO ITERATE

100.0% PROCESSED 17225 ITERATIONS 401 ANSWERS  
 SEARCH TIME: 00.00.01

L3 .401 SEA SSS FUL L1

=> fil caplus

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

178.36

178.57

FILE 'CAPLUS' ENTERED AT 09:54:42 ON 10 JAN 2008  
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FILE COVERS 1907 - 10 Jan 2008 VOL 148 ISS 2  
FILE LAST UPDATED: 8 Jan 2008 (20080108/ED)

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=> s 13

L4 126 L3

=> fil reg

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

0.48

179.05

FILE 'REGISTRY' ENTERED AT 09:54:46 ON 10 JAN 2008  
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STRUCTURE FILE UPDATES: 8 JAN 2008 HIGHEST RN 960198-43-0  
DICTIONARY FILE UPDATES: 8 JAN 2008 HIGHEST RN 960198-43-0

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH June 29, 2007

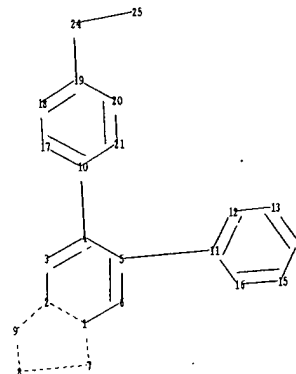
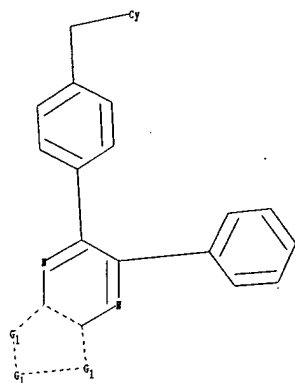
Please note that search-term pricing does apply when conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/support/stngen/stndoc/properties.html>

=>

Uploading C:\Program Files\Stnexp\Queries\10530252h.str



chain nodes :

24 25

ring nodes :

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21

chain bonds :

4-10 5-11 19-24 24-25

ring bonds :

1-2 1-6 1-7 2-3 2-9 3-4 4-5 5-6 7-8 8-9 10-17 10-21 11-12 11-16 12-13  
13-14 14-15 15-16 17-18 18-19 19-20 20-21

exact/norm bonds :

1-2 1-6 1-7 2-3 2-9 3-4 4-5 4-10 5-6 5-11 7-8 8-9 19-24 24-25

normalized bonds :

10-17 10-21 11-12 11-16 12-13 13-14 14-15 15-16 17-18 18-19 19-20 20-21

G1:O,S,N,C

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom  
11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom 18:Atom 19:Atom  
20:Atom 21:Atom 24:CLASS 25:Atom

L5 STRUCTURE UPLOADED

=> d

L5 HAS NO ANSWERS

L5 STR

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

Structure attributes must be viewed using STN Express query preparation.

=> s 15

SAMPLE SEARCH INITIATED 09:55:25 FILE 'REGISTRY'  
SAMPLE SCREEN SEARCH COMPLETED - 168 TO ITERATE

100.0% PROCESSED 168 ITERATIONS 1 ANSWERS  
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE \*\*COMPLETE\*\*  
BATCH \*\*COMPLETE\*\*  
PROJECTED ITERATIONS: 2583 TO 4137  
PROJECTED ANSWERS: 1 TO 80

L6 1 SEA SSS SAM L5

=> s 15 full

FULL SEARCH INITIATED 09:55:28 FILE 'REGISTRY'  
FULL SCREEN SEARCH COMPLETED - 3299 TO ITERATE

100.0% PROCESSED 3299 ITERATIONS 22 ANSWERS  
SEARCH TIME: 00.00.01

L7 22 SEA SSS FUL L5

=> fil caplus

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	178.36	357.41

FILE 'CAPLUS' ENTERED AT 09:55:31 ON 10 JAN 2008  
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FILE COVERS 1907 - 10 Jan 2008 VOL 148 ISS 2  
FILE LAST UPDATED: 8 Jan 2008 (20080108/ED)

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=> s 17

L8 1 L7

=> d ibib abs hitstr tot

L8 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER:  
DOCUMENT NUMBER:

2004:414709 CAPLUS  
141:7136

TITLE:

INVENTOR(S):  
PATENT ASSIGNEE(S):

SOURCE:

A preparation of thieno[3,4-b]pyrazine derivatives  
useful as inhibitors of Akt activity  
Duggan, Mark E.; Lindsley, Craig W.; Zhao, Zhijian  
Merck & Co., Inc., USA  
PCT Int. Appl., 81 pp.  
CODEN: PIXXD2

DOCUMENT TYPE:

LANGUAGE:

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004041162	A2	20040521	WO 2003-US34007	20031024
WO 2004041162	A3	20040729		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GR, GU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, CH, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2501365	A1	20040521	CA 2003-2501365	20031024
AU 2003284981	A1	20040607	AU 2003-284981	20031024
EP 1558586	A2	20050803	EP 2003-779301	20031024
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
JP 2006507299	T	20060302	JP 2004-550130	20031024
US 2005288294	A1	20051229	US 2005-530252	20050405
PRIORITY APPLN. INFO.:			US 2002-422307P	P 20021030
			WO 2003-US34007	W 20031024

OTHER SOURCE(S):

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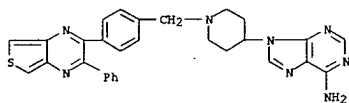
\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB The invention relates to thieno[3,4-b]pyrazine derivs. of formula I (wherein: X, Y, and Z are independently selected from C, N, S, or O provided that at least one of X, Y, or Z is N, S, or O; B is a heterocycle, optionally substituted with 1 to 3 substituents; R1 and R2 are independently selected from C(O)-O-(alkyl/aryl/heterocyclyl), alk(en)ynyl, or CO2H, etc.), useful as inhibitors of activity of one or more of the isoform of the serine/threonine protein kinase, Akt (also known as PKB). The invention is further directed to chemotherapeutic compns. containing the compds. of this invention and methods for treating cancer comprising administration of the compds. of the invention. The invented compds. were screened in Akt kinases assays, PKA and PKC assays, in cell based assays to determine inhibition of Akt/PKB, and for inhibition of tumor growth (specific compds. were tested and were found to have IC50 < 20 μM against one or more of Akt1, Akt2, and Akt3). For instance, thienopyrazine derivs. II was prepared via heterocyclization of the obtained

L8 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

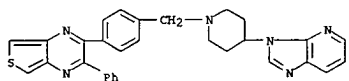
RN 690661-97-3 CAPLUS

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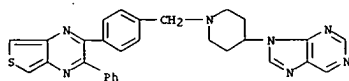
RN 690661-98-4 CAPLUS

CN Thieno[3,4-b]pyrazine, 2-[[4-[(3H-imidazo[4,5-b]pyridin-3-yl)-1-piperidinyl]methyl]phenyl]-3-phenyl- (CA INDEX NAME)



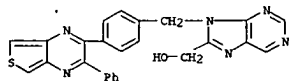
RN 690661-99-5 CAPLUS

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RN 690662-00-1 CAPLUS

CN 9H-Purine, 8-methyl-9-[[4-(3-phenylthieno[3,4-b]pyrazin-2-yl)phenyl]methyl]- (CA INDEX NAME)



RN 690662-01-2 CAPLUS

CN 9H-Purine, 8-methyl-9-[[4-(3-phenylthieno[3,4-b]pyrazin-2-yl)phenyl]methyl]- (CA INDEX NAME)



L8 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

IT diketone deriv. III with 3,4-diaminothiophene (no yield data).

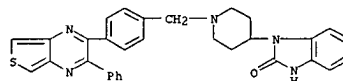
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690662-09-0P 690662-10-3P 690662-11-4P  
690662-12-5P 690662-13-6P 690662-14-7P  
690662-15-8P

R1: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of thienopyrazine derivs. useful as inhibitors of Akt activity)

RN 690661-94-0 CAPLUS

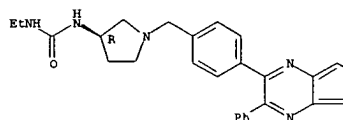
CN 2H-Benzimidazol-2-one, 1,3-dihydro-1-[[4-(3-phenylthieno[3,4-b]pyrazin-2-yl)phenyl]methyl]-4-piperidinyl]- (CA INDEX NAME)



RN 690661-95-1 CAPLUS

CN Urea, N-ethyl-N'-[[3R]-1-[[4-(3-phenylthieno[3,4-b]pyrazin-2-yl)phenyl]methyl]-3-pyrrolidinyl]- (CA INDEX NAME)

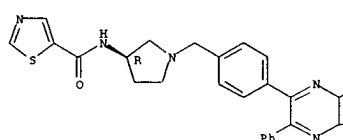
Absolute stereochemistry.



RN 690661-96-2 CAPLUS

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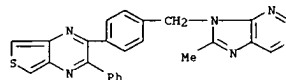
Absolute stereochemistry.



L8 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

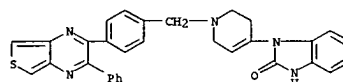
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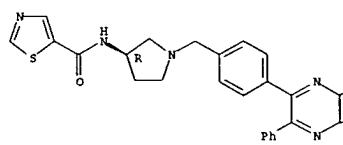


RN 690662-03-4 CAPLUS

CN 5-Thiazolecarboxamide, N-[[3R]-1-[[4-(3-hydroxy-5-phenyl-2H-pyrazolo[3,4-b]pyrazin-6-yl)phenyl]methyl]-3-pyrrolidinyl]- (CA INDEX NAME)

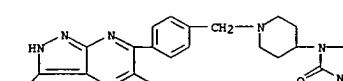


Absolute stereochemistry.



RN 690662-04-5 CAPLUS

CN 2H-Benzimidazol-2-one, 1,3-dihydro-1-[[4-(3-hydroxy-5-phenyl-2H-pyrazolo[3,4-b]pyrazin-6-yl)phenyl]methyl]-4-piperidinyl]- (CA INDEX NAME)

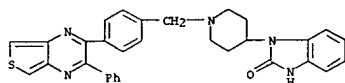


RN 690662-05-6 CAPLUS

CN 2H-Benzimidazol-2-one, 1,3-dihydro-1-[[4-(3-phenylthieno[3,4-b]pyrazin-2-yl)phenyl]methyl]-4-piperidinyl]-, mono(trifluoroacetate) (9CI) (CA INDEX NAME)

L8 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

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CRN 690661-94-0  
CHF C31 H27 N5 O S



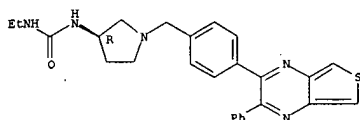
CM 2  
CRN 76-05-1  
CHF C2 H F3 O2



RN 690662-06-7 CAPLUS  
CN Urea, N-ethyl-N'-[[(3R)-1-[[4-(3-phenylthieno[3,4-b]pyrazin-2-yl)phenyl]methyl]-3-pyrrolidinyl]-, mono(trifluoroacetate) (9CI) (CA INDEX NAME)

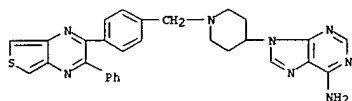
CM 1  
CRN 690661-95-1  
CHF C26 H27 N5 O S

Absolute stereochemistry.



CM 2  
CRN 76-05-1  
CHF C2 H F3 O2

L8 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

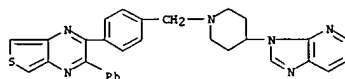


CM 2  
CRN 76-05-1  
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RN 690662-09-0 CAPLUS  
CN Thieno[3,4-b]pyrazine, 2-[[4-[(3H-imidazo[4,5-b]pyridin-3-yl)-1-piperidinyl]methyl]phenyl]-3-phenyl-, mono(trifluoroacetate) (9CI) (CA INDEX NAME)

CM 1  
CRN 690661-98-4  
CHF C30 H26 N6 S



CM 2  
CRN 76-05-1  
CHF C2 H F3 O2



RN 690662-10-3 CAPLUS  
CN 9H-Purine, 9-[1-[[4-(3-phenylthieno[3,4-b]pyrazin-2-yl)phenyl]methyl]-4-piperidinyl]-, mono(trifluoroacetate) (9CI) (CA INDEX NAME)

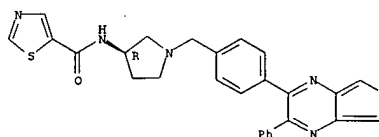
L8 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)



RN 690662-07-8 CAPLUS  
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CM 1  
CRN 690661-96-2  
CHF C27 H23 N5 O S2

Absolute stereochemistry.



CM 2  
CRN 76-05-1  
CHF C2 H F3 O2

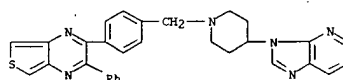


RN 690662-08-9 CAPLUS  
CN 9H-Purin-6-amine, 9-[1-[[4-(3-phenylthieno[3,4-b]pyrazin-2-yl)phenyl]methyl]-4-piperidinyl]-, mono(trifluoroacetate) (9CI) (CA INDEX NAME)

CM 1  
CRN 690661-97-3  
CHF C29 H26 N8 S

L8 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

CM 1  
CRN 690661-99-5  
CHF C29 H25 N7 S

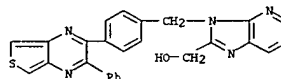


CM 2  
CRN 76-05-1  
CHF C2 H F3 O2



RN 690662-11-4 CAPLUS  
CN 9H-Purine-8-methanol, 9-[4-(3-phenylthieno[3,4-b]pyrazin-2-yl)phenyl]methyl]-, mono(trifluoroacetate) (salt) (9CI) (CA INDEX NAME)

CM 1  
CRN 690662-00-1  
CHF C25 H18 N6 O S



CM 2  
CRN 76-05-1  
CHF C2 H F3 O2

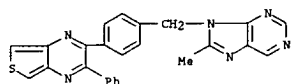


L8 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

RN 690662-12-5 CAPLUS  
CN 9H-Purine, 8-methyl-9-[[4-(3-phenylthieno[3,4-b]pyrazin-2-yl)phenyl]methyl]-, mono(trifluoroacetate) (9CI) (CA INDEX NAME)

CM 1

CRN 690662-01-2  
CMF C25 H18 N6 S



CM 2

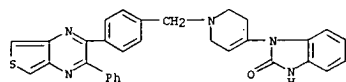
CRN 76-05-1  
CMF C2 H F3 O2



RN 690662-13-6 CAPLUS  
CN 2H-Benzimidazol-2-one, 1,3-dihydro-1-[[1,2,3,6-tetrahydro-1-[[4-(3-phenylthieno[3,4-b]pyrazin-2-yl)phenyl]methyl]-4-pyridinyl]-, mono(trifluoroacetate) (9CI) (CA INDEX NAME)

CM 1

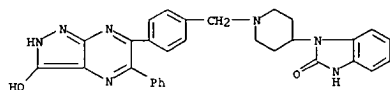
CRN 690662-02-3  
CMF C31 H25 N5 O S



CM 2

CRN 76-05-1  
CMF C2 H F3 O2

L8 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)



CM 2

CRN 76-05-1  
CMF C2 H F3 O2



L8 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

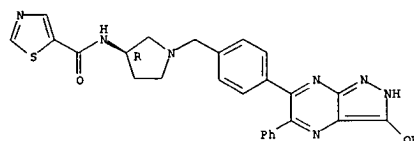


RN 690662-14-7 CAPLUS  
CN 5-Thiazolecarboxamide, N-[(3R)-1-[[4-(3-hydroxy-5-phenyl-2H-pyrazolo[3,4-b]pyrazin-6-yl)phenyl]methyl]-3-pyrrolidinyl]-, mono(trifluoroacetate) (salt) (9CI) (CA INDEX NAME)

CM 1

CRN 690662-03-4  
CMF C26 H23 N7 O2 S

Absolute stereochemistry.



CM 2

CRN 76-05-1  
CMF C2 H F3 O2



RN 690662-15-8 CAPLUS  
CN 2H-Benzimidazol-2-one, 1,3-dihydro-1-[[1-[[4-(3-hydroxy-5-phenyl-2H-pyrazolo[3,4-b]pyrazin-6-yl)phenyl]methyl]-4-piperidinyl]-, mono(trifluoroacetate) (salt) (9CI) (CA INDEX NAME)

CM 1

CRN 690662-04-5  
CMF C30 H27 N7 O2

=> fil reg

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

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363.34

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE

TOTAL

ENTRY

SESSION

CA SUBSCRIBER PRICE

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FILE 'REGISTRY' ENTERED AT 09:55:42 ON 10 JAN 2008

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STRUCTURE FILE UPDATES: 8 JAN 2008 HIGHEST RN 960198-43-0

DICTIONARY FILE UPDATES: 8 JAN 2008 HIGHEST RN 960198-43-0

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TSCA INFORMATION NOW CURRENT THROUGH June 29, 2007

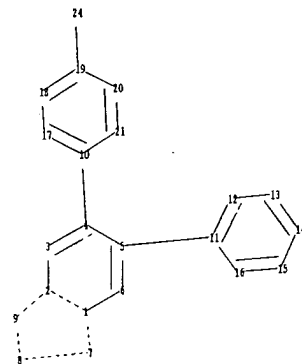
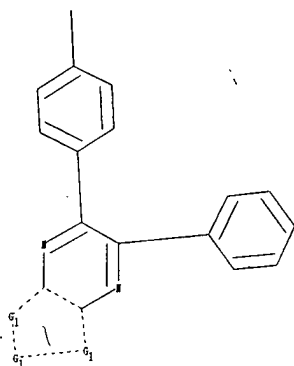
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conducting SmartSELECT searches.

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predicted properties as well as tags indicating availability of  
experimental property data in the original document. For information  
on property searching in REGISTRY, refer to:

<http://www.cas.org/support/stngen/stndoc/properties.html>

=>

Uploading C:\Program Files\Stnexp\Queries\10530252i.str



chain nodes :

24

ring nodes :

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21

chain bonds :

4-10 5-11 19-24

ring bonds :

1-2 1-6 1-7 2-3 2-9 3-4 4-5 5-6 7-8 8-9 10-17 10-21 11-12 11-16 12-13  
13-14 14-15 15-16 17-18 18-19 19-20 20-21

exact/norm bonds :

1-2 1-6 1-7 2-3 2-9 3-4 4-5 4-10 5-6 5-11 7-8 8-9 19-24

normalized bonds :

10-17 10-21 11-12 11-16 12-13 13-14 14-15 15-16 17-18 18-19 19-20 20-21

G1:O,S,N,C

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom  
11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom 18:Atom 19:Atom  
20:Atom 21:Atom 24:CLASS

L9 STRUCTURE UPLOADED

=> d

L9 HAS NO ANSWERS

L9 STR



\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

Structure attributes must be viewed using STN Express query preparation.

=> s 19

SAMPLE SEARCH INITIATED 09:56:16 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 168 TO ITERATE

100.0% PROCESSED 168 ITERATIONS

2 ANSWERS

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE \*\*COMPLETE\*\*  
BATCH \*\*COMPLETE\*\*

PROJECTED ITERATIONS: 2583 TO 4137

PROJECTED ANSWERS: 2 TO 124

L10 2 SEA SSS SAM L9

=> s 19 full

FULL SEARCH INITIATED 09:56:19 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 3299 TO ITERATE

100.0% PROCESSED 3299 ITERATIONS

51 ANSWERS

SEARCH TIME: 00.00.01

L11 51 SEA SSS FUL L9

=> fil caplus

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

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541.70

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE

TOTAL

ENTRY

SESSION

CA SUBSCRIBER PRICE

0.00

-0.80

FILE 'CAPLUS' ENTERED AT 09:56:22 ON 10 JAN 2008

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=> s l11

L12            18 L11

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ACCESSION NUMBER: 2007:922054 CAPLUS

DOCUMENT NUMBER: 147:448559

TITLE: Porphyrin, phthalocyanine and pyrazinoporphyrazine derivatives with multifluorenyl substituents as efficient deep-red emitters

AUTHOR(S): Barker, Carl A.; Zeng, Xianshun; Bettington, Sylvia; Batsanov, Andrei S.; Bryce, Martin R.; Beeby, Andrew

CORPORATE SOURCE: Department of Chemistry, Durham University, Durham, DH1 3LE, UK

SOURCE: Chemistry--A European Journal (2007), 13(23),

6710-6717, 56710/1-56710/14

CODEN: CEUJED; ISSN: 0947-6539

PUBLISHER: Wiley-VCH Verlag GmbH &amp; Co. KGaA

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 147:448559

AB The synthesis and photophys. properties are described for a series of porphyrin, phthalocyanine and pyrazinoporphyrazine derivs. which bear four or eight peripheral fluorenyl substituents as antennae. Representative examples are 5,10,15,20-tetra(9,9-dihexyl-9H-fluoren-2-yl)porphyrin, 5,10,15,20-tetrakis[4-(9,9-dihexyl-9H-fluoren-2-yl)phenyl]porphyrin (I), 2,3,9,10,16,17,23,24-octakis(9,9-dihexyl-9H-fluoren-2-yl)-29H,31H-phthalocyanine (II) and 2,3,9,10,16,17,23,24-octakis[4-(9,9-dihexyl-9H-fluoren-2-yl)phenyl]-29H,31H-tetra-pyrazinoporphyrazine (III). Palladium-mediated Suzuki-Miyaura cross-coupling reactions have been key steps for attaching the substituents. The compds. are deep-red emitters:  $\lambda_{\text{max}}(\text{nm}) = 659$  (I), 737 (II) and 684 nm (III). Their absorption and emission spectra, their fluorescence lifetimes and quantum yields are correlated with the structures of the macrocycles and the substituents. The solution fluorescence quantum yields of porphyrin derivs. substituted with fluorene and terphenyl substituents ( $\Phi_f = 0.21$ -0.23) are approx. twice that of tetraphenylporphyrin. For phthalocyanine derivative II,  $\Phi_f$  was very high (0.88). Specific excitation of the fluorene units of II produced emission from both of them ( $\lambda_{\text{max}} = 480$  nm) and also from the phthalocyanine core ( $\lambda_{\text{max}} = 750$  nm), indicating a competitive rate of energy transfer and radiative decay of the fluorenes. Organic light-emitting devices (OLEDs) were made by spin-coating techniques by using a poly-spirobifluorene (PSBF) copolymer as the host blended with I (5 weight%) in the configuration ITO/PEDOT:PSS/PSBF copolymer:3/Ca/Al. Deep-red emission ( $\lambda_{\text{max}} = 663$  nm; CIE coordinates  $x = 0.70$ ,  $y = 0.27$ ) was observed with an external quantum efficiency of 2.5% (photons/electron) (at 7.5 mA  $\text{cm}^{-2}$ ), a low turn-on voltage and high emission intensity (luminance) of 5500 cd  $\text{m}^{-2}$  (at 250 mA  $\text{m}^{-2}$ ).

IT 952155-34-9

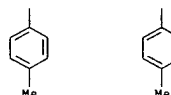
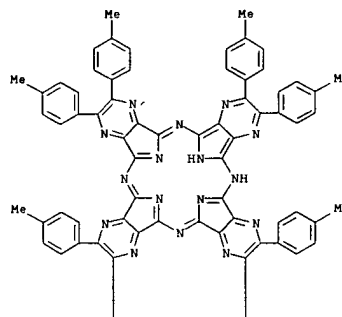
RL: PRP (Properties)

(preparation and photophys. properties of porphyrin, phthalocyanine and pyrazinoporphyrazine derivs. with multifluorenyl substituents)

RN 952155-34-9 CAPLUS

CN INDEX NAME NOT YET ASSIGNED

PAGE 1-A



REFERENCE COUNT: 10

THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

PAGE 2-A

ACCESSION NUMBER: 2005:237834 CAPLUS

DOCUMENT NUMBER: 142:325647

TITLE: Electroluminescent materials containing perylenylamines and azafluoranthenes, and red-emitting organic electroluminescent devices using them

INVENTOR(S): Toba, Yasumasa; Tanaka, Hiroaki; Amano, Saneomi; Suda, Yasumasa

PATENT ASSIGNEE(S): Toyo Ink Mfg. Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 68 pp.

CODEN: JJOXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

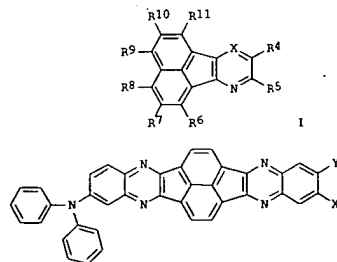
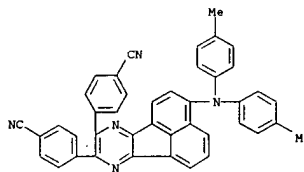
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005068367	A	20050317	JP 2003-303402	20030827
PRIORITY APPLN. INFO.:		JP 2003-303402	20030827	

OTHER SOURCE(S):

GI

MARPAT 142:325647

8,9-diyl]bis- (9CI) (CA INDEX NAME)



II

AB The materials contain Ar1NR1R2 [Ar1 = (un)substituted perylenyl; R1, R2 = aromatic hydrocarbyl, aromatic heterocyclyl] and azafluoranthenes I (X = N, CR3;

R3 = H, aliphatic hydrocarbyl, Nar2Ar3, etc.;  $\geq 1$  of R3-R11 = Nar2Ar3).

Thus, an organic electroluminescent device having an emitter layer containing

di[4-(1,1-dimethylphenylmethyl)phenyl]-3-perylenylamine, and 1:1 mixture of II (Y = NPh2; Z = H) and I (Y = H, Z = NPh2) showed high luminescence intensity at low operation voltage.

IT 566933-14-0

RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)

(Dopant: electroluminescent materials containing perylenylamines and azafluoranthenes for red-emitting organic electroluminescent devices)

RN 566933-14-0 CAPLUS

CN Benzonitrile, 4,4'-[3-bis(4-methylphenyl)amino]acenaphtho[1,2-b]pyrazine-

L12 ANSWER 3 OF 18 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER:

DOCUMENT NUMBER:

TITLE:

INVENTOR(S):

PATENT ASSIGNEE(S):

SOURCE:

DOCUMENT TYPE:

LANGUAGE:

FAMILY ACC. NUM. COUNT:

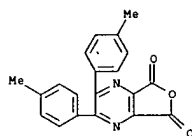
PATENT INFORMATION:

2004-1127366 CAPLUS  
142:56362  
Preparation of 3-substituted 5,6-diaryl-pyrazine-2-carboxamide and 2-sulfonamide derivatives as cannabinoid receptor 1 (CB1) modulators  
Cheng, Leifeng  
Astrazeneca AB, Swed.  
PCT Int. Appl., 120 pp.  
CODEN: PIXXD2  
Patent  
English  
1

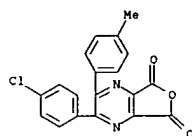
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004111034	A1	200411223	WO 2004-SE970	20040616
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RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
AU 2004247616	A1	200411223	AU 2004-247616	20040616
CA 2527035	A1	200411223	CA 2004-2527035	20040616
EP 1638953	A1	20060329	EP 2004-749012	20040616
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR			
BR 2004011508	A	20060725	BR 2004-11508	20040616
CN 1809554	A	20060726	CN 2004-80017200	20040616
JP 2006527771	T	20061207	JP 2006-517044	20040616
NO 2005005919	A	20060216	NO 2005-5919	20051213
MX 2005PA13711	A	20060308	MX 2005-PA13711	20051215
US 2007093484	A1	20070426	US 2005-560862	20051215
PRIORITY APPL. INFO.:			GB 2003-14057	A 20030618
OTHER SOURCE(S):			WO 2004-SE970	W 20040616
GI				

L12 ANSWER 3 OF 18 CAPLUS COPYRIGHT 2008 ACS on STN

(Continued)

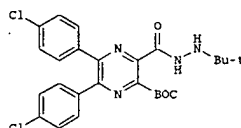
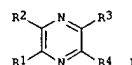


RN 811441-83-5 CAPLUS  
CN Furo[3,4-b]pyrazine-5,7-dione, 2-(4-chlorophenyl)-3-(4-methylphenyl)- (CA INDEX NAME)



REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 3 OF 18 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)



AB Title compds. I [wherein R1, R2 = independently (un)substituted Ph, thienyl, pyridinyl; R3 = X-Y-NR5R6; X = absent, CO, or SO2; Y = absent, NH optionally substituted by an alkyl group; R5, R6 = independently (un)substituted amino/alkyl, (CH2)r(phenyl)s, (un)saturated 5-8-membered heterocyclyl; R5 = H and R6 = defined above; or R5R6 = (un)substituted (un)saturated 5-8-membered heterocyclyl; r = 0-4; s = 1 when r = 0, otherwise s = 1 or 2; R5R6 = (un)substituted (un)saturated 5-8-membered heterocyclyl; R4 = (CH2)nCO2R7; n = 0-4; R7 = (un)substituted cycloalkyl/cycloalkyl, (CH2)nphenyl, saturated or partially unsatd. 5-8-membered heterocyclyl, CONH2 and derivs.; n = defined as above; and pharmaceutically acceptable salts thereof] were prepared as cannabinoid 1 (CB1) receptor modulators. For example, reacting 3-(tert-butoxycarbonyl)-5,6-bis(4-chlorophenyl)pyrazine-2-carboxylic acid [preparation given] with tert-butylhydrazine hydrochloride gave pyrazine II. I are active at the CB1 receptor (IC50 < 1 μM), most preferred compds. have IC50 < 200 nM. For instance, II exhibited an IC50 (hCB1) = 1.8 nM. Thus, I and their pharmaceutical compns. are useful for the treatment of obesity, psychiatric and neurol. disorders (no data).  
IT 811441-56-2P, 2,3-Bis(4-methylphenyl)furo[3,4-b]pyrazine-5,7-dione  
811441-83-5P, 2-(4-Chlorophenyl)-3-(4-methylphenyl)furo[3,4-b]pyrazine-5,7-dione  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(intermediate; preparation of 3-substituted 5,6-diarylpyrazine-2-carboxamide and 2-sulfonamide derivs. as CB1 modulators)  
RN 811441-56-2 CAPLUS  
CN Furo[3,4-b]pyrazine-5,7-dione, 2,3-bis(4-methylphenyl)- (CA INDEX NAME)

L12 ANSWER 4 OF 18 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER:

DOCUMENT NUMBER:

TITLE:

INVENTOR(S):

PATENT ASSIGNEE(S):

SOURCE:

DOCUMENT TYPE:

LANGUAGE:

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

2004:414709 CAPLUS  
141:7136  
A preparation of thieno[3,4-b]pyrazine derivatives useful as inhibitors of Akt activity  
Duggan, Mark E.; Lindsley, Craig W.; Zhao, Zhijian  
Merck & Co., Inc., USA  
PCT Int. Appl., 81 pp.  
CODEN: PIXXD2  
Patent  
English  
1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004041162	A2	20040521	WO 2003-US34007	20031024
WO 2004041162	A3	20040729		
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CA 2501365	A1	20040521	CA 2003-2501365	20031024
AU 2003284981	A1	20040607	AU 2003-284981	20031024
EP 1558586	A2	20050803	EP 2003-779301	20031024
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JP 2006507299	T	20060302	JP 2004-550130	20031024
US 2005288294	A1	20051229	US 2005-530252	20050405
PRIORITY APPL. INFO.:			US 2002-422307P	P 20021030
OTHER SOURCE(S):			WO 2003-US34007	W 20031024
GI				

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB The invention relates to thieno[3,4-b]pyrazine derivs. of formula I [wherein: X, Y, and Z are independently selected from C, N, S, or O provided that at least one of X, Y, or Z is N, S, or O; B is a heterocycle, optionally substituted with 1 to 3 substituents; R1 and R2 are independently selected from C(O)-O-(alkyl/aryl/heterocyclyl), alk(en)ynyl, or CO2H, etc.], useful as inhibitors of activity of one or more of the isoform of the serine/threonine protein kinase, Akt (also known as PKB). The invention is further directed to chemotherapeutic compns. containing the compds. of this invention and methods for treating cancer comprising administration of the compds. of the invention. The invented compds. were screened in Akt kinases assays, PKA and PKC assays, in cell based assays to determine inhibition of Akt/PKB, and for inhibition of tumor growth (specific compds. were tested and were found to have IC50 < 20 μM against one or more of Akt1, Akt2, and Akt3). For instance, thienopyrazine derivs. II was prepared via heterocyclization of the obtained

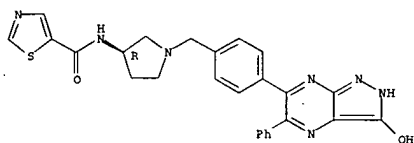


RN 690662-14-7 CAPLUS  
 CN 5-Thiazolecarboxamide, N-[(3R)-1-[[4-(3-hydroxy-5-phenyl-2H-pyrazolo[3,4-b]pyrazin-6-yl]phenyl)methyl]-3-pyrrolidinyl]-, mono(trifluoroacetate) (salt) (9CI) (CA INDEX NAME)

CM 1

CRN 690662-03-4  
 CMF C26 H23 N7 O2 S

Absolute stereochemistry.



CM 2

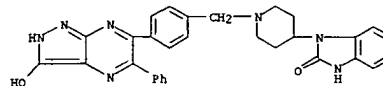
CRN 76-05-1  
 CMF C2 H F3 O2



RN 690662-15-8 CAPLUS  
 CN 2H-Benzimidazol-2-one, 1,3-dihydro-1-[[4-(3-hydroxy-5-phenyl-2H-pyrazolo[3,4-b]pyrazin-6-yl]phenyl)methyl]-4-piperidinyl]-, mono(trifluoroacetate) (salt) (9CI) (CA INDEX NAME)

CM 1

CRN 690662-04-5  
 CMF C30 H27 N7 O2



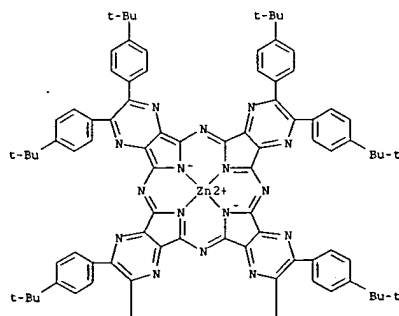
CM 2

CRN 76-05-1  
 CMF C2 H F3 O2



ACCESSION NUMBER: 2004:202763 CAPLUS  
 DOCUMENT NUMBER: 142:272664  
 TITLE: Product class 9: phthalocyanines and related compounds  
 AUTHOR(S): McKeown, N. B.  
 CORPORATE SOURCE: Dept. of Chemistry, University of Manchester, Manchester, M13 9PL, UK  
 SOURCE: Science of Synthesis (2004), 17, 1237-1368  
 CODEN: SSCYJ9  
 PUBLISHER: Georg Thieme Verlag  
 DOCUMENT TYPE: Journal: General Review  
 LANGUAGE: English  
 AB A review. Preparation is considered for unsubstituted phthalocyanine, metal phthalocyanine complexes and their substituted sym. and unsym. derivs.  
 IT 160629-45-8P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of phthalocyanines and their metal complexes)  
 RN 160629-45-8 CAPLUS  
 CN Zinc, [2,3,9,10,16,17,23,24-octakis[4-(1,1-dimethylethyl)phenyl]-29H,31H-tetrapyrazino[2,3-b:2',3'-g:2'',3''-l:2''',3'''-q]porphyrizinato(2-)-N29,N30,N31,N32]-, (SP-4-1) - (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

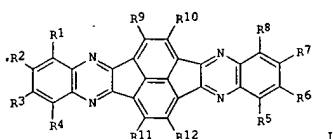


REFERENCE COUNT: 682 THERE ARE 682 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 6 OF 18 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2003:582449 CAPLUS  
DOCUMENT NUMBER: 139:141049  
TITLE: Azafluoranthene compounds having diarylamino group and organic electroluminescent devices using them  
INVENTOR(S): Iwakuma, Toshihiro; Hosokawa, Chishio; Kusumoto, Tadashi  
PATENT ASSIGNEE(S): Sekiyu Sangyo Kasseika Center, Japan; Idemitsu Kosan Co., Ltd.  
SOURCE: Jpn. Kokai Tokkyo Koho, 34 pp.  
DOCUMENT TYPE: Patent: JXXXXAF  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003212875	A	20030730	JP 2002-13222	20020122
PRIORITY APPL. INFO.:			JP 2002-13222	20020122
OTHER SOURCE(S):		MARPAT 139:141049		
GI				



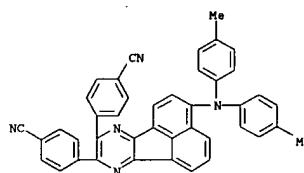
AB The title compds. I [R1-R12 = H, (un)substituted C1-30 alkyl, (un)substituted C1-30 alkoxy, (un)substituted C6-40 aryl, C3-20 trialkylsilyl, (un)substituted C6-20 aryloxy, CF3, cyano; NAr1Ar2; Ar1, Ar2 = Ph, naphthyl, anthracenyl, phenanthrenyl, acenaphthenyl, biphenyl, fluorenyl, carbazolyl, thiophenyl, triazolyl, thiadiazolyl; NAr1Ar2 may be cyclized; ≥1 of R1-R12 = NAr1Ar2] are useful as red-emitting electroluminescent materials. Markush structures of the other 8 azafluoranthene compds. are also given. Electroluminescent devices using the compds. show high brightness and high luminescent efficiency.

IT 566933-14-0P  
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(preparation of azafluoranthene compds. having diarylamino group and red-emitting organic electroluminescent devices using them)

RN 566933-14-0 CAPLUS

CN Benzonitrile, 4,4'-[3-bis(4-methylphenyl)amino]acenaphtho[1,2-b]pyrazine-8,9-diyl]bis- (9CI) (CA INDEX NAME)

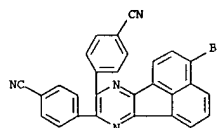
L12 ANSWER 6 OF 18 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)



IT 566933-13-9  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(preparation of azafluoranthene compds. having diarylamino group and red-emitting organic electroluminescent devices using them)

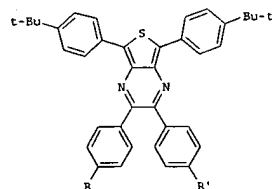
RN 566933-13-9 CAPLUS

CN Benzonitrile, 4,4'-[3-bromoacenaphtho[1,2-b]pyrazine-8,9-diyl]bis- (9CI) (CA INDEX NAME)



L12 ANSWER 7 OF 18 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2002:487191 CAPLUS  
DOCUMENT NUMBER: 137:262721  
TITLE: Star-shaped thieno-[3,4-b]-pyrazines: a new class of red-emitting electroluminescent materials  
AUTHOR(S): Thomas, K. R. Justin; Lin, Jiann T.; Tao, Yu-Tai; Chuen, Chang-Hao  
CORPORATE SOURCE: Institute of Chemistry, Academia Sinica, Taipei, 115, Taiwan  
SOURCE: Advanced Materials (Weinheim, Germany) (2002), 14(11), 822-826  
CODEN: ADVMEW; ISSN: 0935-9648  
PUBLISHER: Wiley-VCH Verlag GmbH  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
OTHER SOURCE(S): CASREACT 137:262721  
GI



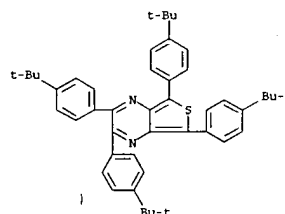
AB The title red dyes I (R = R' = t-Bu, OMe, CN; R = CN, R' = t-Bu; R = R' = Br; 1-5, resp.) and I (R = R' = PhNAr, Ar = Ph, 1-naphthyl; 6, 7, resp.) were prepared and their electronic absorption and fluorescence properties studied as functions of substituent and solvent. Oxidation and reduction potentials exhibited LFERS with respect to substituents. Double-layer red-emitting EL devices were fabricated using 6 or 7 as hole-transport as well as emitting layer and TPBI as electron-transport layer.

IT 463932-62-9P 463932-64-1P 463932-65-2P  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(preparation of star-shaped thieno[3,4-b]pyrazines as a new class of red-emitting electroluminescent materials)

RN 463932-62-9 CAPLUS

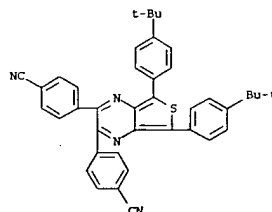
CN Thieno[3,4-b]pyrazine, tetrakis[4-(1,1-dimethylethyl)phenyl]- (9CI) (CA INDEX NAME)

L12 ANSWER 7 OF 18 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)



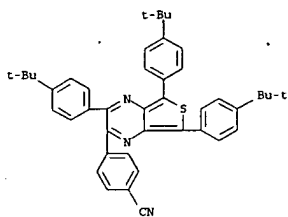
RN 463932-64-1 CAPLUS

CN Benzonitrile, 4,4'-[5,7-bis[4-(1,1-dimethylethyl)phenyl]thieno[3,4-b]pyrazine-2,3-diyl]bis- (9CI) (CA INDEX NAME)



RN 463932-65-2 CAPLUS

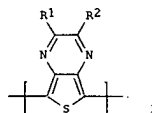
CN Benzonitrile, 4-[3,5,7-tris[4-(1,1-dimethylethyl)phenyl]thieno[3,4-b]pyrazin-2-yl]- (CA INDEX NAME)



REFERENCE COUNT: 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 8 OF 18 CAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2001:57004 CAPLUS  
 DOCUMENT NUMBER: 134:107762  
 TITLE: Novel polymer for luminous component ingredient and luminous component  
 INVENTOR(S): Araki, Katsumi  
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.  
 CODEN: JKXKAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001019947	A	20010123	JP 1999-191854	19990706
US 6413658	B1	20020702	US 2000-611321	20000706
PRIORITY APPLN. INFO.: GI			JP 1999-191854	A 19990706



AB The invention refers to a novel polymeric luminescent material which contains the following component I [R1,2 = H, (un)substituted alkyl, aryl, alkoxy, aryloxy alkylthio amino, heteroaryl, or aliphatic heterocycle; and R1,2 may join together to form a ring].

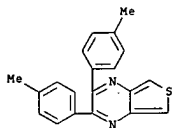
IT 320365-66-0P  
 RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
 (novel polymer for luminous component ingredient and luminous component)

RN 320365-66-0 CAPLUS  
 CN Thieno[3,4-b]pyrazine, 2,3-bis(4-methylphenyl)-, homopolymer (9CI) (CA INDEX NAME)

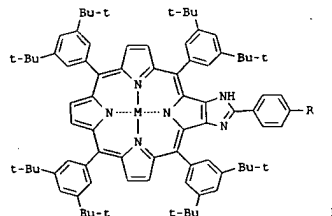
CM 1

CRN 647021-65-6

CMF C20 H16 N2 S



L12 ANSWER 9 OF 18 CAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 1999:563282 CAPLUS  
 DOCUMENT NUMBER: 131:345652  
 TITLE: Fused porphyrin-imidazole systems: new building blocks for synthesis of porphyrin arrays  
 AUTHOR(S): Crossley, Maxwell J.; McDonald, James A.  
 CORPORATE SOURCE: School of Chemistry, The University of Sydney, 2006, Australia  
 SOURCE: Journal of the Chemical Society, Perkin Transactions 1: Organic and Bio-Organic Chemistry (1999), (17), 2429-2431  
 CODEN: JCPRB4; ISSN: 0300-922X  
 PUBLISHER: Royal Society of Chemistry  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 GI



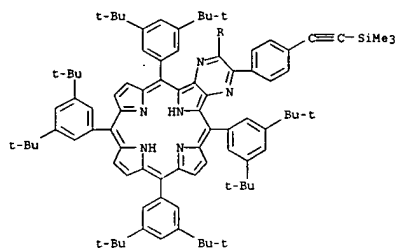
AB Reaction of porphyrin-2,3-diones with aromatic aldehydes and NH4OAc in AcOH-CHCl3 affords 2-aryl-1H-imidazo[4,5-b]porphyrins, e.g., I (R = H, NO2, C.tplbond.CSiMe3, CHO, R1 = 3,5-tBu2C6H3; H = 2H) which, with appropriate substitution and metallation with Zn(II), are useful building blocks for the synthesis of multi-porphyrin arrays; porphyrin-tetraones are similarly converted into the corresponding bis-fused systems.

IT 249920-56-7P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)

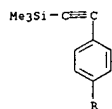
RN 249920-56-7 CAPLUS

CN 23H, 25H-Pyrazino[2,3-b]porphine, 6,11,16,21-tetrakis[3,5-bis(1,1-dimethylethyl)phenyl]-2,3-bis[4-(trimethylsilyl)ethynyl]phenyl]- (9CI) (CA INDEX NAME)

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REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ACCESSION NUMBER: 1995:297129 CAPLUS

DOCUMENT NUMBER: 122:95279

TITLE: Octa-(4-tert-butylphenyl)-tetrapyrzazino[2,3-b:2',3'-g:2'',3'''-l:2''',3''''-q]porphyrazine

and its metal complexes

Freyer, Wolfgang

CORPORATE SOURCE: Max-Born-Inst. Nichtlineare Optik

Kurzeitspektroskopie, Berlin, Germany

SOURCE: Journal fuer Praktische Chemie/Chemiker-Zeitung

(1994), 336(8), 690-2

CODEN: JPCCEN; ISSN: 0941-1216

PUBLISHER: Barch

DOCUMENT TYPE: Journal

LANGUAGE: German

AB Octa-(4-tert-butylphenyl)tetrapyrzazino[2,3-b:2',3'-g:2'',3'''-l:2''',3''''-q]porphyrazine and its copper and zinc complexes were prepared. The absorption spectra for the free and complexed species were recorded, as well as the fluorescence spectra of the free species in benzene and DMSO. These complexes have potential applications as photodynamic sensitizers for tumor therapy.

IT 148081-95-2P

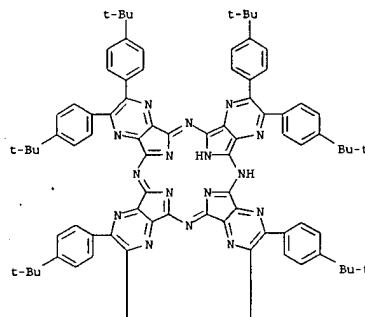
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(preparation and UV-visible and fluorescence spectra of)

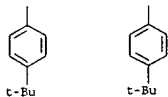
RN 148081-95-2 CAPLUS

CN 29H,31H-Tetrapyrzazino[2,3-b:2',3'-g:2'',3'''-l:2''',3''''-q]porphyrazine, 2,3,9,10,16,17,23,24-octakis[4-(1,1-dimethylethyl)phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



IT 160629-45-8P 160629-46-9P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of)

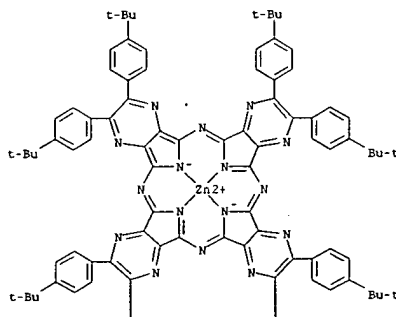
RN 160629-45-8 CAPLUS

CN Zinc, [2,3,9,10,16,17,23,24-octakis[4-(1,1-dimethylethyl)phenyl]-29H,31H-

tetrapyrzazino[2,3-b:2',3'-g:2'',3'''-l:2''',3''''-q]porphyrazinato(2-)-

N29,N30,N31,N32]-, (SP-4-1)- (9CI) (CA INDEX NAME)

PAGE 1-A



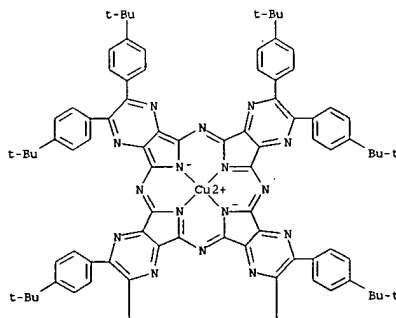
PAGE 2-A



RN 160629-46-9 CAPLUS

CN Copper, [2,3,9,10,16,17,23,24-octakis[4-(1,1-dimethylethyl)phenyl]-29H,31H-tetrapyrzazino[2,3-b:2',3'-g:2'',3'''-l:2''',3''''-q]porphyrazinato(2-)-N29,N30,N31,N32]-, (SP-4-1)- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A





ACCESSION NUMBER:

DOCUMENT NUMBER:

TITLE:

AUTHOR(S):

CORPORATE SOURCE:

SOURCE:

DOCUMENT TYPE:

LANGUAGE:

AB Three substituted tetraazaporphyrins, octa-(4-tert-butylphenyl)tetrapyrzino[2,3-b:2',3'-g:2'',3'''-l:2''',3'''-q]porphyrine, and tetra-(4-tert-butyl)phthalocyanatomagnesium (t4-PcMg), were spectroscopically checked in solns. and liposomes with respect to suitability as potential sensitizers of a possible new start mechanism for photodynamic therapy (PDT) from a stepwise excited higher singlet state. This PDT start mechanism was recently proposed to overcome the problem of O<sub>2</sub> (1A<sub>2</sub>)-caused cutaneous phototoxicity in PDT. By means of absorption and fluorescence measurements as well as nonlinear absorption investigations, transient spectroscopy, and laser expts., compound t4-PcMg was found to have the most appropriate properties: based on a high fluorescence quantum yield ( $\Phi_F = 0.84$ ) and a very low crossing to the triplet ( $\Phi_{ISC} = 0.05$ ), 2 higher excited states can be effectively populated both by 2 stepwise absorption transitions at 674 nm and consecutive absorption transitions at 674 and 710 nm. Moreover, t4-PcMg incorporates into liposomes very well with spectroscopic properties similar to those in solution

IT 148081-95-2

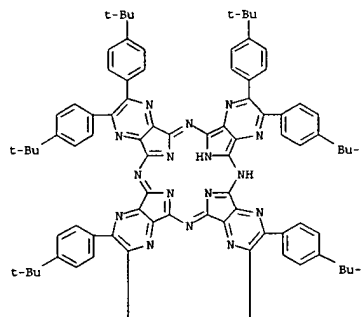
RL: PRP (Properties)

(spectroscopic properties of, photodynamic therapy in relation to)

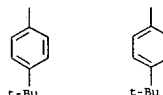
RN 148081-95-2 CAPLUS

CN 29H,31H-Tetrapyrzino[2,3-b:2',3'-g:2'',3'''-l:2''',3'''-q]porphyrine, 2,3,9,10,16,17,23,24-octakis(4-(1,1-dimethylethyl)phenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



ACCESSION NUMBER:

DOCUMENT NUMBER:

TITLE:

INVENTOR(S):

PATENT ASSIGNEE(S):

SOURCE:

DOCUMENT TYPE:

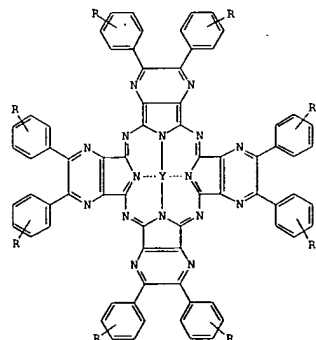
LANGUAGE:

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 4109595	A1	19920924	DE 1991-4109595	19910320
PRIORITY APPL. INFO.:		DE 1991-4109595	19910320	
OTHER SOURCE(S):		MARPAT 118:22088		

GI



AB Title compds. [1; R = (cyclo)alkyl; Y = 2H, metal ion] were prepared as neoplasia inhibitors (no data). Thus, 5,6-bis(4-tert-butylphenyl)-2,3-dicyanopyrazine was refluxed 4 h with Zn(OAc)<sub>2</sub> as ZnCl<sub>2</sub> to give 1 (R = 4-OMe<sub>3</sub>, Y = Zn<sup>2+</sup>).

IT 144828-32-OP 145142-03-6P

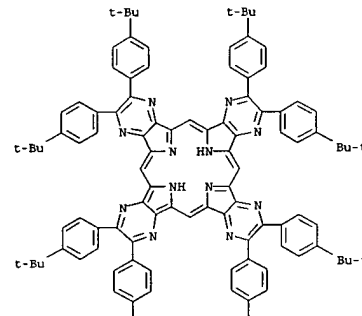
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)

(preparation of, as neoplasia inhibitor)

RN 144828-32-0 CAPLUS

CN 29H,31H-Tetrapyrzino[2,3-b:2',3'-g:2'',3'''-l:2''',3'''-q]porphine, 2,3,9,10,16,17,23,24-octakis(4-(1,1-dimethylethyl)phenyl)- (9CI) (CA

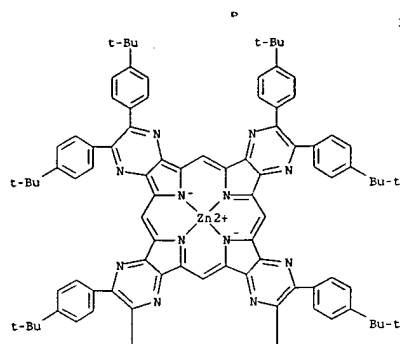
PAGE 1-A



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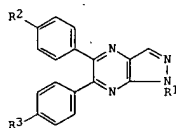
RN 145142-03-6 CAPLUS  
CN Zinc, [2,3,9,10,16,17,23,24-octakis(4-(1,1-dimethylethyl)phenyl)-29H,31H-tetrapyrzino[2,3-b:2',3'-g:2'',3'''-l:2''',3'''-q]porphyrinato(2-)-N29,N30,N31,N32]-, (SP-4-1)- (9CI) (CA INDEX NAME)



L12 ANSWER 13 OF 18 CAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 1992:241729 CAPLUS  
 DOCUMENT NUMBER: 116:241729  
 TITLE: Topical skin conditioners  
 INVENTOR(S): Sado, Tetsuya  
 PATENT ASSIGNEE(S): Lion Corp., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.  
 CODEN: JKKKAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 03287513	A	19911218	JP 1990-90000	19900404

PRIORITY APPLN. INFO.:  
 OTHER SOURCE(S): MARPAT 116:241729  
 GI

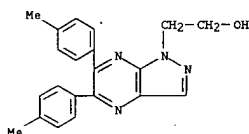


AB A topical skin conditioner contains 1H-pyrazolo[3,4-b]pyrazine derivs. (I; R1= H, vinyl, CH2CH2R4 where R4= OH, acetyloxy, succinyloxy, halo; R2, R3= H, halo, lower alkyl, lower alkoxy). It lightens the skin and prevents tissue degeneration. A cosmetic lotion containing 0.1% by weight 1-(2-acetoxyethyl)-5,6-diphenyl-1H-pyrazolo[3,4-b]pyrazine was prepared

IT 128586-38-9  
 RL: BIOL (Biological study)  
 (cosmetic skin conditioners containing)

RN 128586-38-9 CAPLUS

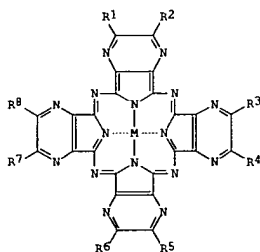
CN 1H-Pyrazolo[3,4-b]pyrazine-1-ethanol, 5,6-bis(4-methylphenyl)- (CA INDEX NAME)



L12 ANSWER 14 OF 18 CAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 1991:431112 CAPLUS  
 DOCUMENT NUMBER: 115:31112  
 TITLE: Near IR-absorbing tetrahydrazinoporphyrazine derivatives  
 INVENTOR(S): Nagasaki, Fumihiko; Hatano, Hiromi; Takahashi, Hiroshi  
 PATENT ASSIGNEE(S): Nippon Soda Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.  
 CODEN: JKKXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 03007288	A	19910114	JP 1989-219865	19890825
PRIORITY APPLN. INFO.:			JP 1989-32143	A1 19890210
			JP 1989-73154	A1 19890324

OTHER SOURCE(S): MARPAT 115:31112  
 GI



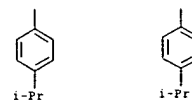
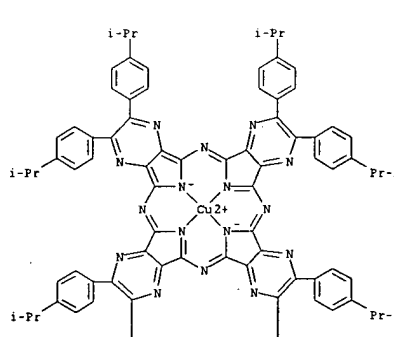
AB Tetrahydrazinoporphyrazine derivs. I [R1-8 = H, halo, amino, substituted Ph or furyl, (un)substituted thienyl, PhO, alkoxy, phenylthio, or alkylthio; R1R2, R3R4, R5R6, R7R8 = 1,2-phenylenedioxy, 1,2-phenylenedithio; ≥1 of R1-8 is not H; M = 2H, metal, metal oxide, metal hydroxide, acyl metal, alkoxy metal, siloxy metal, metal halide] show good organic solvent solubility and are useful for optical recording, photosensitive materials, catalysts, and freshness preservatives (no data). Thus, stirring 2,3-dicyano-5,6-diphenylpyrazine and VCl3 in chloronaphthalene under reflux for 5 h gave 48% I (R1-8 = Ph, M = VO) showing λmax 690 nm (in 97% H2SO4).

IT 133952-66-6P 133952-68-8P 134620-03-4P  
 RL: IMF (Industrial manufacture); PREP (Preparation)  
 (preparation of, near IR-absorbing)

RN 133952-66-6 CAPLUS

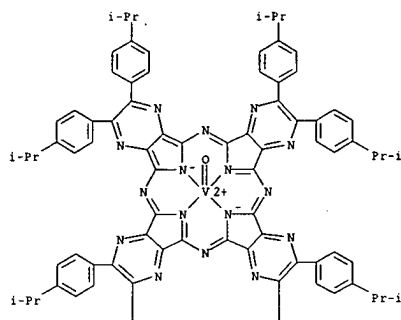
CN Copper, [2,3,9,10,16,17,23,24-octakis[4-(1-methylethyl)phenyl]-29H,31H-tetrapyrzino[2,3-b:2',3'-g:2'',3''-l:2''',3'''-q]porphyrinato(2-)-

L12 ANSWER 14 OF 18 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)  
 N29,N30,N31,N32]-, (SP-4-1)- (9CI) (CA INDEX NAME)



RN 133952-68-8 CAPLUS  
 CN Vanadium, [2,3,9,10,16,17,23,24-octakis[4-(1-methylethyl)phenyl]-29H,31H-tetrapyrzino[2,3-b:2',3'-g:2'',3''-l:2''',3'''-q]porphyrinato(2-)-N29,N30,N31,N32]oxo-, (SP-5-12)- (9CI) (CA INDEX NAME)

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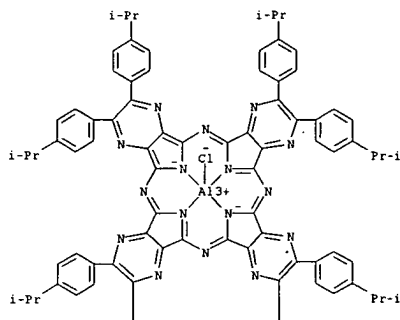


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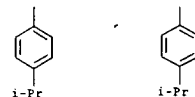


RN 134620-03-4 CAPLUS  
 CN Aluminum, chloro[2,3,9,10,16,17,23,24-octakis[4-(1-methylethyl)phenyl]-29H,31H-tetrapyrazino[2,3-b:2',3'-g:2'',3''-l:2''',3'''-q]porphyrazinato(2-)-N29,N30,N31,N32]-, (SP-5-12)- (9CI) (CA INDEX NAME)

PAGE 1-A

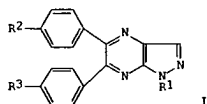


PAGE 2-A



L12 ANSWER 15 OF 18 CAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 1990:478422 CAPLUS  
 DOCUMENT NUMBER: 113:78422  
 TITLE: Preparation of 1H-Pyrazolo[3,4-b]pyrazines as blood platelet aggregation inhibitors and antiinflammatories  
 Sado, Tetsuya; Inoue, Akira  
 INVENTOR(S): Lion Corp., Japan  
 PATENT ASSIGNEE(S): Jpn. Kokai Tokkyo Koho, 7 pp.  
 SOURCE: CODEN: JKOXXF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

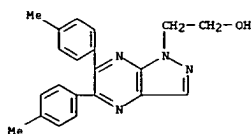
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 02101078	A	19900412	JP 1988-252242	19881006
JP 2631139	B2	19970716		
PRIORITY APPLN. INFO.: MARPAT 113:78422			JP 1988-252242	19881006
OTHER SOURCE(S): GI				



AB Blood platelet aggregation inhibitors and antiinflammatories contain the title compds. I (R1 = H, vinyl, CH2CH2R4; R2, R3 = H, halo, lower alkyl, lower alkoxy; R4 = OH, AcO, succinyl, halo) as active ingredients. 5-Amino-4-nitroso-1-(2-hydroxyethyl)pyrazole was hydrogenated over Pd/C in MeOH, the catalyst was removed, and the product refluxed with 4,4'-dimethoxydibenzyl for 1 h to give 84% I (R1 = CH2CH2OH, R2 = R3 = OH) (II), which at 2.5 + 10-7 M gave 50% inhibition of arachidonic acid-induced blood platelet aggregation. LD50 of II was >2000 mg/kg p.o. in mice.

IT 128586-38-9P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of, as blood platelet aggregation inhibitor and anti-inflammatory agent)

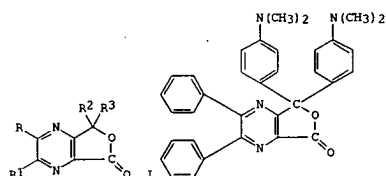
RN 128586-38-9 CAPLUS  
 CN 1H-Pyrazolo[3,4-b]pyrazine-1-ethanol, 5,6-bis(4-methylphenyl)- (CA INDEX NAME)



L12 ANSWER 16 OF 18 CAPLUS COPYRIGHT 2008 ACS ON STN

ACCESSION NUMBER: 1987:111426 CAPLUS  
DOCUMENT NUMBER: 106:111426  
TITLE: Chromogenic compounds for pressure-sensitive and thermal copying processes  
INVENTOR(S): Hall, Nigel  
PATENT ASSIGNEE(S): Imperial Chemical Industries PLC, UK  
SOURCE: Eur. Pat. Appl., 52 pp.  
CODEN: EFXKDW  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 192328	A1	19860827	EP 1986-300305	19860117
EP 192328	B1	19900509		
R: CH, DE, FR, GB, IT, LI				
JP 61195164	A	19860829	JP 1986-31036	19860217
PRIORITY APPLN. INFO.:			GB 1985-4631	A 19850222
OTHER SOURCE(S):		MARPAT 106:111426		

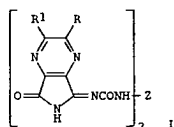


AB Chromogenic pyrazine derivs. I (R, R1 = H, alkenyl, alkoxy, aryl, etc. provided that R and R1 are not H at the same time; R2 and R3 = heterocyclic ring having aryl group annealed through a conjugated N linkage a homocyclic aryl group having substituent NR4R5; R4, R5 = H, R4 and R5 together with the N to which they are joined may form an heterocyclic ring provided R4 and R5 = H at the same time) are described for thermal recording materials and pressure-sensitive copying papers with improved lightfastness. Thus, a thermal recording paper was prepared by coating with a composition containing II and bisphenol A as developer to give green colored images with excellent lightfastness.  
IT 105490-76-4P 105490-78-6P  
RL: PREP (Preparation)  
(preparation of, for application in pressure-sensitive copying paper and thermal recording material)  
RN 105490-76-4 CAPLUS  
CN Furo[3,4-b]pyrazin-5(7H)-one, 7-[4-(diethylamino)phenyl]-7-(1-ethyl-2-methyl-1H-indol-3-yl)-2,3-bis(4-methylphenyl)- (CA INDEX NAME)

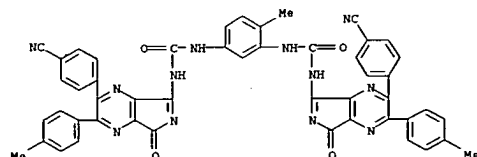
L12 ANSWER 17 OF 18 CAPLUS COPYRIGHT 2008 ACS ON STN

ACCESSION NUMBER: 1980:43274 CAPLUS  
DOCUMENT NUMBER: 92:43274  
ORIGINAL REFERENCE NO.: 92:72199,7222a  
TITLE: Pyrrolopyrazine pigments  
INVENTOR(S): Genda, Yoshikazu; Tomita, Nobuo; Ito, Masaru  
PATENT ASSIGNEE(S): Nippon Soda Co., Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

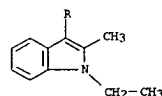
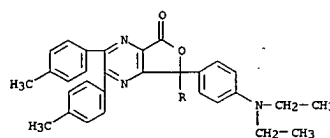
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 54083026	A	19790702	JP 1977-150280	19771214
JP 60028874	B	19850706		
PRIORITY APPLN. INFO.:			JP 1977-150280	A 19771214



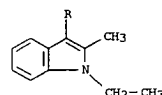
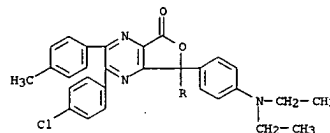
AB I (R, R1 = H, Me, furyl, phenyl; Z = aromatic carbocyclic residue) useful as light- and solvent-fast pigments in coatings and inks were prepared. For example, 7-amino-2,3-diphenyl-5-oxopyrrolo[3,4-b]pyrazine [70385-89-6] was treated with 1,5-naphthalene diisocyanate [3173-72-6] to give I (R = R1 = Ph, Z = 1,5-ClOH6) [72362-68-6].  
IT 72362-82-4P 72362-83-5P 72362-84-6P  
RL: PREP (Preparation)  
(pigments, light- and solvent-resistant, for coatings and inks, manufacture of)  
RN 72362-82-4 CAPLUS  
CN Urea, N,N'-(4-methyl-1,3-phenylene)bis[N'-(5-(4-cyanophenyl)-6-(4-methylphenyl)-1-oxo-1H-pyrrolo[3,4-b]pyrazin-3-yl)]- (9CI) (CA INDEX NAME)



L12 ANSWER 16 OF 18 CAPLUS COPYRIGHT 2008 ACS ON STN (Continued)

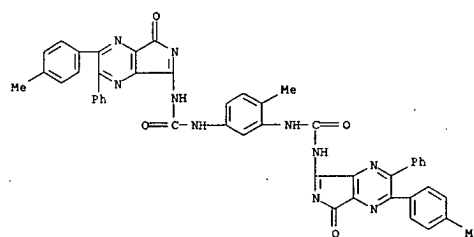


RN 105490-78-6 CAPLUS  
CN Furo[3,4-b]pyrazin-5(7H)-one, 2-(4-chlorophenyl)-7-[4-(diethylamino)phenyl]-7-(1-ethyl-2-methyl-1H-indol-3-yl)-3-(4-methylphenyl)- (CA INDEX NAME)

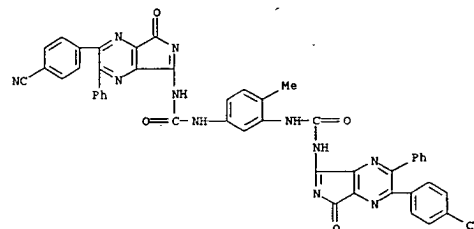


L12 ANSWER 17 OF 18 CAPLUS COPYRIGHT 2008 ACS ON STN (Continued)

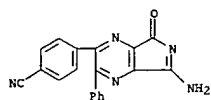
RN 72362-83-5 CAPLUS  
CN Urea, N,N'-(4-methyl-1,3-phenylene)bis[N'-(6-(4-methylphenyl)-1-oxo-5-phenyl-1H-pyrrolo[3,4-b]pyrazin-3-yl)]- (9CI) (CA INDEX NAME)



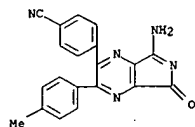
RN 72362-84-6 CAPLUS  
CN Urea, N,N'-(4-methyl-1,3-phenylene)bis[N'-(6-(4-cyanophenyl)-1-oxo-5-phenyl-1H-pyrrolo[3,4-b]pyrazin-3-yl)]- (9CI) (CA INDEX NAME)



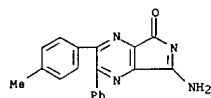
IT 70385-93-2 72362-69-7 72362-70-0  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with diisocyanates)  
RN 70385-93-2 CAPLUS  
CN Benzonitrile, 4-(7-amino-5-oxo-2-phenyl-5H-pyrrolo[3,4-b]pyrazin-3-yl)- (CA INDEX NAME)



RN 72362-69-7 CAPLUS  
CN Benzonitrile, 4-[3-amino-6-(4-methylphenyl)-1-oxo-1H-pyrrolo[3,4-b]pyrazin-5-yl]- (9CI) (CA INDEX NAME)



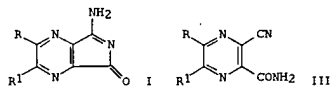
RN 72362-70-0 CAPLUS  
CN 1H-Pyrrolo[3,4-b]pyrazin-1-one, 3-amino-6-(4-methylphenyl)-5-phenyl- (9CI) (CA INDEX NAME)



ACCESSION NUMBER: 1979:405250 CAPLUS  
DOCUMENT NUMBER: 91:5250  
ORIGINAL REFERENCE NO.: 91:987a,990a  
TITLE: 7-Amino-2,3-substituted-5-oxopyrrolo[3,4-b]pyrazines  
INVENTOR(S): Genda, Yoshikazu; Tomita, Nobuo; Ito, Masaru; Kano, Saburo  
PATENT ASSIGNEE(S): Nippon Soda Co., Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.  
CODEN: JXXXXF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 54016497	A	19790207	JP 1977-80960	19770708
JP 62005915	B	19870207		

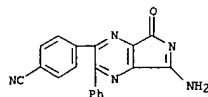
PRIORITY APPLN. INFO.: JP 1977-80960 A 19770708  
G1



AB Title compds. I [R, R1 = Ph, H (II); Me, H; Ph, Ph; Me, Me; H, H; 2-furyl, 2-furyl; Ph, 4-NCC6H4; 4-O2NC6H4, Ph] were prepared by reaction of III with MeOH or EtOH in the presence of Na or K. Thus, a mixture of 2 g III (R = Ph, R1 = H), MeOH, and 0.5 g Na was stirred at room temperature to give 90%

II.  
IT 70385-93-2P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

RN 70385-93-2 CAPLUS  
CN Benzonitrile, 4-(7-amino-5-oxo-2-phenyl-5H-pyrrolo[3,4-b]pyrazin-3-yl)- (CA INDEX NAME)



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COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

98.58

640.28

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE

TOTAL

ENTRY

SESSION

CA SUBSCRIBER PRICE

-14.40

-15.20

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